IN THE CLAIMS:

Please add new claims 30-32 and amend the claims as follows:

1.   (Currently Amended) A seismic acquisition system, comprising:

<u>a recording vehicle for collecting seismic data;</u>

a plurality of ~~seismic~~ data sources for generating <u>the</u> seismic data;

a data collection system utilizing an open network protocol<u>, wherein the data collection system is stored on the recording vehicle</u>;

a plurality of data source nodes, wherein each data source node is coupled to a portion of the plurality of ~~seismic~~ data sources; and

a first router coupled to a second router, a portion of the data source nodes and the data collection system, wherein the first router is configured to route the seismic data generated by the portion of the plurality of ~~seismic~~ data sources to the data collection system in accordance with the open network protocol<u>, and wherein the first router is coupled to the second router via a single connection</u>.

2.   (Currently Amended) The seismic acquisition system of claim 1, wherein the first router routes data to the ~~seismic~~ data sources.

3.   (Original) The seismic acquisition system of claim 1, wherein each of the data source nodes is assigned at least two respective network addresses under the open network protocol.

4.   (Currently Amended) The seismic acquisition system of claim 1, wherein the first router routes the seismic data generated by the ~~seismic~~ data sources to the data collection system through the data source nodes and the second router in accordance with the open network protocol.

5.   (Original) The seismic acquisition system of claim 1, wherein the data collection system is assigned at least two respective network addresses under the open network protocol.

6.   (Previously Presented) The seismic acquisition system of claim 1, further comprising at least one line network having a land-based seismic cable or an ocean bottom cable.

7.   (Currently Amended) The seismic acquisition system of claim 1, wherein the ~~seismic~~ data sources include at least one of seismic sources, seismic receivers, and positioning instruments.

8.   (Original) The seismic acquisition system of claim 7, where in the seismic sources include at least one of an air gun, a vibrator, and an explosive charge.

9.   (Withdrawn) The seismic acquisition system of claim 7, wherein the seismic receivers include at least one of a hydrophone and a geophone.

10.   (Original) The seismic acquisition system of claim 1, wherein the open network protocol includes the Internet Protocol.

11.   (Canceled)

12.   (Previously Presented) The seismic acquisition system of claim 28, wherein the synchronization service comprises the Network Time Protocol.

13.   (Currently Amended) The seismic acquisition system of claim 1, further comprising:
        a location mapping service for generating a mapping between (a) network addresses of the data collection system, the first router, the second router, the data source nodes and the ~~seismic~~ data sources and (b) physical locations of the data

collection system, the first router, the second router, the data source nodes and the ~~seismic~~ data sources; and

an auto-configuration capability for automatically reconfiguring the network upon the addition of an additional piece of seismic equipment.

14.   (Canceled)

15.   (Previously Presented) The seismic acquisition network of claim 28, wherein the synchronization service tolerates changes in topology.

16.   (Previously Presented) The seismic acquisition system of claim 28, wherein the synchronization service synchronizes the clocks hierarchically.

17.   (Previously Presented) The seismic acquisition system of claim 28, wherein the synchronization service tolerates breaks in the attachment between at least one seismic data source and the line network.

18.   (Withdrawn) The seismic acquisition system of claim 13, wherein the location mapping service maps: an order for the data collection system, the router, the data source nodes, and the seismic data sources; an orientation for each of the data collection system, the router, the data source nodes, and the seismic data sources; and a plurality of topology events.

19.   (Withdrawn) The seismic acquisition system of claim 18, wherein the topology events include at least one of a link going up, a link going down, and a node address change.

20.   (Withdrawn) The seismic acquisition system of claim 13, wherein the at least one data collection system comprises a plurality of data collection systems and the synchronization service, the location mapping service, and the auto-configuration capability are administered by more than one of the plurality of data collection systems.

21.   (Withdrawn)   A method for use in a seismic survey, the method comprising:

assigning at least two respective network addresses to each one of a plurality of seismic data sources, a plurality of data source nodes, a plurality of routers, and a data collection system;

routing data generated by the data sources through the data source nodes and the routers to the data collection system;

correlating the network addresses of the seismic data sources to the physical location of the respective seismic data sources; and

correlating the physical locations of the respective seismic data sources to the data generated by the respective seismic data sources.

22.   (Withdrawn) The method of claim 21, wherein assigning the at least two respective network addresses to each one of a plurality of seismic data sources includes assigning at least two respective network addresses to each one of a plurality of seismic data sources including at least one of a seismic source, a seismic receiver, and a positioning instrument.

23.   (Withdrawn) The method of claim 21, further comprising at least one of:

synchronizing a plurality of clocks for the data collection system, the router, the data source nodes, and the seismic data sources;

mapping between network addresses and logical locations of the data collection system, the router, the data source nodes, and the seismic data sources; and

automatically reconfiguring the network upon removal of any one of the router, the data source nodes, or the seismic data sources, or upon the addition of an additional piece of seismic equipment.

24.   (Withdrawn) The method of claim 23, wherein synchronizing the plurality of clocks includes synchronizing the clocks hierarchically.

25.   (Withdrawn) The method of claim 23, wherein mapping between network addresses and logical locations of the data collection system includes: mapping an order for the data collection system, the router, the data source nodes, and the seismic data sources; mapping an orientation for each of the data collection system, the router, the data source nodes, and the seismic data sources; and mapping a plurality of topology events.

26.   (Currently Amended) A seismic acquisition system, comprising:
         <u>a recording vehicle for collecting seismic data;</u>
         a first line network having:
                  a first plurality of ~~seismic~~ data sources for generating <u>the </u>seismic data, wherein each seismic data source is assigned at least two network addresses;
                  a first data collection system having at least two network addresses assigned thereto<u>, wherein the first data collection system is stored on the recording vehicle</u>;
                  a first plurality of data source nodes, wherein each data source node is coupled to a portion of the first plurality of ~~seismic~~ data sources via a first medium-bandwidth data path, and wherein each data source node of the first plurality of data source nodes is assigned at least two network addresses; and
                  a first router coupled to a portion of the first plurality of data source nodes via the first medium-bandwidth data path and to the first data collection system via a high-bandwidth data path, wherein the first router is configured to route the seismic data generated by the portion of the first plurality of ~~seismic~~ data sources to the first data collection system in accordance with an open network protocol, and wherein the first router is assigned at least two network addresses.

27.   (Previously Presented)The seismic acquisition system of claim 1, wherein each seismic data source is assigned at least two network addresses under the open network protocol.

28.   (Currently Amended) The seismic acquisition system of claim 1, further comprising:

a synchronization service for synchronizing a plurality of clocks for the data collection system, the first router, the second router, the data source nodes, and the ~~seismic~~ data sources; and

an auto-configuration capability for automatically reconfiguring the seismic acquisition system upon removal of the router, the second router, the data source nodes, or the ~~seismic~~ data sources.

29.   (Currently Amended) The seismic acquisition system of claim 26 further comprising:

a second line network, wherein the second line network is coupled to the first line network via the high-bandwidth path and the second line network comprises:

a second plurality of ~~seismic~~ data sources for generating <u>the</u> seismic data, wherein each seismic data source of the second plurality of ~~seismic~~ data sources is assigned at least two network addresses;

a second data collection system having at least two network addresses assigned thereto;

a second plurality of data source nodes, wherein each data source node of the second plurality of data source nodes is coupled to a portion of the second plurality of ~~seismic~~ data sources via a second medium-bandwidth data path, and wherein each data source node of the second plurality of data source nodes is assigned at least two network addresses; and

a second router coupled to a portion of the second plurality of data source nodes via the second medium-bandwidth data path, to the second data collection system via the high-bandwidth data path and to the first router via the high-bandwidth path, wherein the second router is configured to route the seismic data generated by the portion of the second plurality of ~~seismic~~ data sources to the second data collection system in accordance with the open network protocol, and wherein the second router is assigned at least two network addresses<u>, wherein the first router is coupled to the second router via a single connection,</u>

<u>and wherein the first router communicates with the second router to determine a</u> <u>best path to route the seismic data based on dynamic routing and load balancing</u> <u>techniques</u>.

30.   (New)   The seismic acquisition system of claim 1, wherein a first seismic data source of the portion of the plurality of data sources is coupled to one of the plurality of data source nodes and to a second seismic data source of the portion of the plurality of data sources, and wherein the second seismic data source is coupled to the first seismic data source and a third seismic data source of the portion of the plurality of data sources.

31.   (New)   The seismic acquisition system of claim 1, wherein the first router communicates with the second router to determine a best path to route the seismic data based on dynamic routing and load balancing techniques.

32.   (New)   The seismic acquisition system of claim 26, wherein a first seismic data source of the portion of the plurality of data sources is coupled to one of the first plurality of data source nodes and to a second seismic data source of the portion of the plurality of data sources, and wherein the second seismic data source is coupled to the first seismic data source and a third seismic data source of the portion of the plurality of data sources.